CSS Notes

codingwithyash

codingwithyash.com

Introduction to CSS

HTML is just an skeletal layout of a website. We need CSS to design a website, add styles to it and make it look beautiful.

Q What is CSS?

CSS stands for cascading style sheet. CSS is optional but it converts an ugly looking HTML page into a beautiful & responsive website.

Q Why learn CSS?

CSS is a very demanded skill in the world of web development. If you are successfully able to master CSS, you can customize your websites as per your liking.

Q What is DOM?

DOM stands for document object model. When a page is loaded, the browser creates a DOM of the page which is constructed as a tree of objects.

(*) HTML id and class attributes.

When an HTML element is given an id, it serves as a unique identifier for that element.

On the other hand, when an HTML element is given a class, it now belongs to that class. More than one elements can belong to a single class but every element must have a unique id (if assigned).

We can add multiple class to an element like this

```
<div id = "first" class = "c1 c2 c3">
```

unique ID

multiple class followed by spaces.

* Three ways to add CSS to HTML.

① Inline CSS → Adding css using style attribute to that element.

② Internal CSS → Adding <style>..... </style> to HTML.

③ External CSS → Adding a stylesheet (.css) to HTML using <link> tag

⊛ CSS Selectors

A css selector is used to select an HTML element for styling.

ex →
```
body {          → selector
    color: red;  → Declaration (Property: value;)
    background-color: pink;
}
```

Element Selector

It is used to select an Element based off the tagname.

ex →
```
h2 {
    color: blue;
    font-size: 46px;
}
```

Id selector

It is used to select an element with a given id.

ex-)

is used to target by id.

```
#first {
    color: white;
    background-color: black;
}
```

class selector

It is used to select an element with a given class.

ex →

```
.red {
  background-color : red;
  }
```

Note :

① We can group selectors like this :

```
h1, h2, h3, div {
        color : blue;
       }
```

② We can use element.class as a selector like this :

```
p.red {
    color : red;
    }
```

all paragraph of red class will get red color.

③ * (asterisks) can be used as a universal selector to select all the elements.

```
* {
  margin : 0;
  padding : 0;
  }
```

④ An inline style will override external and internal styles.

Colors & Backgrounds

CSS rules are simple key-value pairs with a selector. We can write css rules to change color and set backgrounds.

The color property

The CSS color property can be used to set the text color inside an element.

ex→
```
p {
    color: red;
}
```
Text color will be changed to red.

Similarly we can set color for different elements.

Types of color values

following are the most commonly used color values in CSS.

① RGB → specify color using Red, green, blue value e.g. rgb(200,98,70)

② HEX code → specify color using hex code. eg. #ff7180

③ HSL → specify the color using HSL values. eg. hsl(8, 90%, 63%)
Hue, saturation, lightness

The value of the color or background color is provided as any of these values.

Note: We also have an RGBA and an HSLA values for color but they are rarely used by beginners.

A stands for Alpha.

✱ favicon → `<link rel="icon" href="favicon.ico?v=2">`
this is optional.

The background-color property:

The CSS background-color property specifies the background color of a container.

for eg.

```
.brown{
    background-color: brown;
}
```

Sets the background color of brown class to brown.

The background image property

used to set an image as the background.

```
body {
    background-image: url("yash.png");
}
```

The image is by default repeated in x & y directions.

The background-repeat property:

can be any of:

1. repeat-x → repeat in horizontal direction
2. repeat-y → repeat in vertical direction
3. no-repeat → image not repeat.

#. The background-size property:

can be following

1. cover → fits and no empty space remains
2. contain → fit & image is fully visible
3. auto → Display in original size.

④ {{width}} → set width and height will be set automatically

⑤ {{width}} {{height}} → set width and height.

The background-position property:

Sets the starting position of a background image.

```
.div1{
    background-position: left top;
    }
```

The background-attachment property

Defines a scrollable/non-scrollable character of a background image.

```
.div2{
    background-attachment: fixed;
    }
```

#. The background shorthand

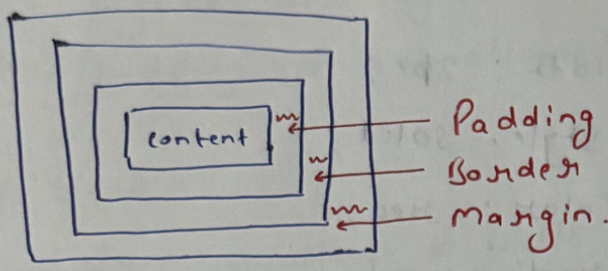
A single property to set multiple background properties.

```
.div3{
    background: red url("yash.png") no-repeat rankain fixed
    right top;
```

one of the properties can be missing given the others are in order.

CSS Box model

The CSS box model looks at all the HTML elements as boxes.



Setting width & Height.

We can set width and height in CSS as follows.

```
#box {
    height: 70px;
    width: 70px;
}
```

Note that the total width/height is calculated as follows:

Total height = height + top/bottom padding + top/bottom border + top/bottom margin.

* Setting margin and padding

```
.box {
    margin : 3px;
    padding: 4px;
}
```

```
.box {
    margin: 7px 0px 2px 11px;
}
```

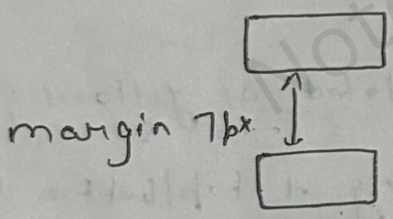
```
.box {
    margin: 7px 3px;
}
```

(*) Setting borders

We can set the borders as follows.

```
.box {
    border-width : 2px;
    border-style : solid;
    border-color : red;
    border-radius : 7px;
}
```

Margin collapse → when two margins from different elements overlap, the equivalent margin is the greater of the two. This is called margin collapse.



margin b/w them is collapsed to the bigger margin.

Fonts and Display

The display property: The CSS display property is used to determine whether an element is treated as a block/inline element & the layout used for its children.

↳ flexbox/ grid etc.

⊛ display : inline →

Takes only the space required by the element. No line breaks before and after. Setting width/height or margin/padding is not allowed.

⊛ display : block →

Takes full space available in width and leaves a newline before and after the element.

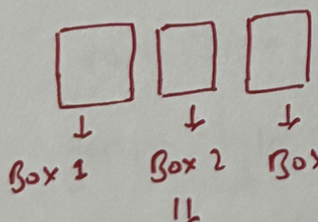
⊛ display: inline-block →

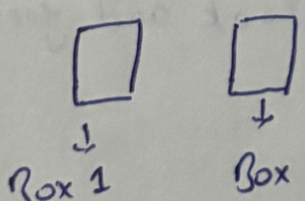
Similar to inline but setting height, width, margin and padding is allowed. Elements can sit next to each other.

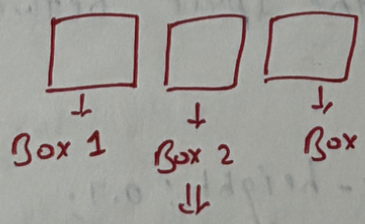
⊛ display : none Vs visibility: hidden →

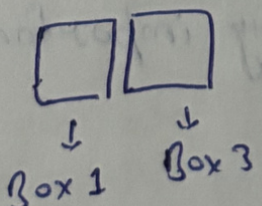
With display: none, the element is removed from the document flow. Its space is not blocked.

With visibility: hidden, the element is hidden but its space is reserved.









(*) Text-align property :→
used to set the horizontal alignment of a text.

```
.div1 {
    tex-align : center;
    }
```

(*) Text-decoration property :→
used to decorate the text
can be overline, line-through, underline, none...etc.

(*) text-transform property →
used to specify uppercase and lowercase letters in a text.

```
p.uppercase {
        text-transform : uppercase;
        }
```

(*) line-height property →
used to specify the space between lines.

```
.small {
        line-height : 0.7;
        }
```

(f) font → font plays a very important role in the look and feel of a website.

(*) font-family :→ font family specifies the font of a text can hold multiple values as a "fallback" system.

```
p {
    font-family : "times new roman", "monospace";
}
```

↳ always do this to ensure the correct font of your choice is rendered.

Web safe fonts :→ These fonts are universally installed across browsers.

(*) How to add google fonts →

In order to use custom google fonts, go to google fonts then select a style and finally paste it to the style.css of your page.

(*) other font properties :→

Some of the other font properties are listed below :

font-size : → sets the size of the font

font-style :→ sets the font style.

font-variant → sets whether text is displayed in small-caps.

font-wright → sets the weight of the font.

font-family can be specific or it can be generic. ← [Researc

Size, position and lists

There are more units for describing size othe than 'px'. These are rem, em, vw, vh, percentages etc.

① Whats wrong with pixel?

Pixels are relative to the viewing device. For a device with size 1920x1080, 1px is 1 unit out of 1080/1920.

(*) Relative lengths. → These units are relative to the other length property.

following are some of the most commonly used relative lengths.

① em → unit relative to the parent font size.
↳ em means "my parent element's font size".

② rem → unit relative to the root font size (<html> tag)

③ vw → unit relative to 1% viewport width.

④ vh → unit relative to 1% viewport height.

⑤ % → unit relative to the parent element.

⑥ min/max - height/width property →

CSS has a min-height, max-height, min-width and max-width property.

If the content is smaller than the minimum height, minimum-height will be applied.

similar is the case with other related properties.

(*) The position property :→
Used to manipulate the location of an element.
following are the possible values :

static → The default position top/bottom/left/right/z-index has no effect

relative → The top/bottom/left/right/z-index will now work. otherwise the element is in the flow of document like static. अपनी पुरानी Position में।
अपने Purani Position से gap को भरेगा।

absolute → The element is removed from the flow & is relatively positioned to its first non-static ancestor. top/bottom etc works.
Relative to the Parent.

fixed → Just like absolute except the element is positioned relative to the browser window.

sticky → The element is positioned based on user's scroll position.

(*) The list-style property :
The list style property is a shorthand for type, position, & image.

```
ul {
    list-style : square inside url('hary.jpg
```

2-index property → It will only work when the position is not static.

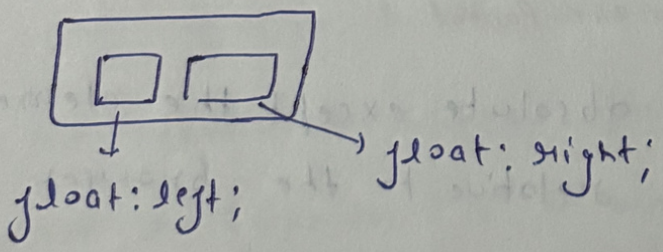
The 2-index property specifies the stack order of an element.

It defines which layer will be above which in case of overlapping elements. It work only for position → fixed, absolute, relative.

flexbox → m.m.imp.

Before we look into css flexbox, we will look into float and clear properties.

The float property → float property is simple. It just flows the element towards left/right



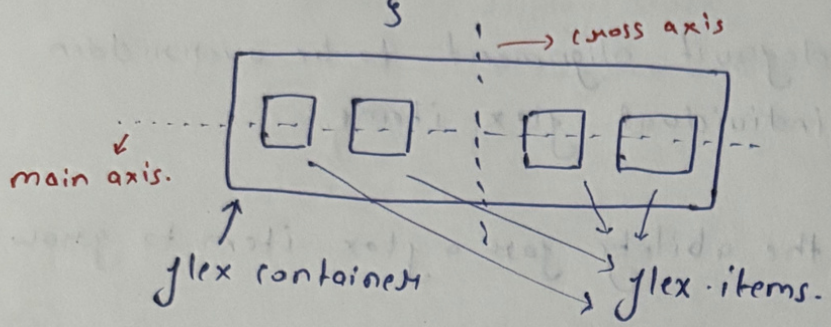
(*) The clear property → used to clear the float. It specifies what elements can float beside a given element.

(*) The css flexbox → Aims at providing a better way to layout, align and distribute space among items in a container.

.container{

display: flex; → Initialize a flexbox.

}



(*) flex-direction property :→

Defines the direction towards which items are laid.

Can be row, row-reverse, column, column-reverse.

⊥ default.

(*) flex properties for parent (flex container).

following are the properties for flex parent:

(1) flex-wrap :→ can be wrap, no-wrap, wrap-reverse, wrap items as needed with this property

(2) justify-content → Defines alignment along main axis.

(3) align-items → Defines alignment along cross axis.

(4) align-content → Aligns a flex container's lines when there is extra space in the cross axis

(*) flex properties for the children (flex items).

following are the properties for the flex children.

① order: controls the order in which the item appear in flex container.

② align-self: Allows default alignment to be overridden for the individual flex items.

③ flex-grow: Defines the ability for a flex item to grow

④ flex-shrink: specifies how much a flex item will shrink relative to the rest of the flex items.

(*) Media queries → A way to make our design responsive when we resize our window.

Note → to create multiple div with ids use this shorthand.

div.box #box-$*4

↓ for class ↓ for id

output →

Syntax for media screen: → query

@media only screen and (max-width:350px)

{

#box-1 { display: block;

}

}

→ It represent that we are using only "only screen" media query.

```
@media only screen and (max-width: 500px) and (min-width: 300px)
{
    #box-2 { display: block;
             background-color: blueviolet;
           }
}
```

(*) More on css selectors :→

(1) div > P ⇒ If P is right inside div.
↳ This greater than symbol is used to target the direct child.

(2) div + P ⇒ If P is right after div.
↳ This Plus symbol is used to target the next sibling

(3) for selecting using attributes.

ex → `input[type='text']` तो ये उस input को target करेगा जिसमे type → text है।

```
{
}
```

ex → `a[target]` ये उस anchor tag को select करेगा जिसमे target attribute है।

```
{
}
```

(4) targeting nth child.

ex→ `li:nth-child(3)` ये nth child को target करने के लिए use किया जाता है।

```
{

}
```

ex→ `li:nth-child(2n+0)` इसे even में apply होने वाली css

```
{
}
```

(*) Before and After pseudo selectors.

Syntax:

```
header::before {
background: url('images/tile1-1.png')
            noreapeat center center/cover;

content: " ";
position: absolute;
top:0; left:0;
width: 100%;
height: 100%;
z-index: -1;
opacity: 0.6;
}
```

Practise

(*) Box shadow and text shadow.

Syntax: `box-shadow: 10px 13px green;`

10px → for x, 13px → for y, green → color.

These no. can be negative also

In case of negative shadow upar chali jaegi.

syntax: 7px 5px 10px green;
↓ ↓ ↓ ↓
for x for y blur radius color.

syntax: 7px 5px 10px 2px green;
↓ ↓ ↓ ↓ ↳ color.
for x for y blur radius for spread radius

(*) CSS variables

we can declare two types of variable ① Global
② Local.

Global variable

syntax:

```
:root {
    --primary-color : blue;
    --danger-color : red;
    --maxw : 333px;
}
```

→ These variables can be used anywhere.

Local variable

```
.box1 {
    --box-color : violet;
    =
    =
    =
    =
}
```

ये variable सिर्फ box1 class में ही accessible है।

CSS animations and keyframes

```
.box 1
   {
    background-color: green;
     width : 250px
     height : 250px
     position: relative
     animation-name: yash;        ← name could be anything.
      animation-duration : 2s;
     animation-iteration-count : 1;
     animation-fill-mode: alternate;
     animation-timing-function: ease-in;

   }
```

Basic & mandatory for animation (animation-name, animation-duration, animation-iteration-count)

animation ચલાવા ના પહેલાં લખીના ←

```
@keyframes yash {
        from {
             width: 200px;
        }

        to {
             width: 1400px
        }
}
```

ગુજરાતી વાંચો।

```
@keyframes yash {
0% {
    top: 0px;
    left: 0px
  }
25% {
    top: 250px;
    left: 0px;
  }
75% {
    top: 250px;
    left: 250px;
  }
100%
  {
    top: 0px;
    left: 250px;
  }
}
```

→ સહેલો % complete થાય ત્યાં

⑧ CSS transitions → keyframes and animation.

→ To animate an element, you need to know about the animation properties and the @keyframes rule.
The animation properties control how the animation should behave and the @keyframe rule controls what happens during the animation.

There are eight animation properties in total.

Thank You !!!

codingwithyash

codingwithyash.com